

**REMARKS**

Applicants respectfully request further examination and reconsideration in view of the above amendments and the arguments set forth fully below. Claims 1-25 were pending. Claims 1-25 have been rejected. By the above amendment, Claims 1, 6, 13, 17 and 19 have been amended. Claims 1-25 are currently pending in this application.

**Rejections Under 35 U.S.C. § 112**

Within the Office Action, Claim 19 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is stated within the Office Action that there is insufficient antecedent basis for the limitation "the controller" within Claim 19. By the above amendment, Claim 19 has been amended to replace the term "the controller" with the term "the source device" which has proper antecedent basis in line 3 of Claim 17. Accordingly, Claim 19 does now particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Rejections Under 35 U.S.C. § 102**

Within the Office Action, Claims 1, 2, 4, 6, 8, 10-13, 17 and 23-25 have been rejected under 35 U.S.C. § 102 (e) as being anticipated by U.S. Patent No. 5,841,471 to Endsley et al. (hereinafter "Endsley"). Endsley teaches timing control for a digitally interfaced camera using variable line readout intervals. Endsley teaches a digital camera that is designed to capture images and transfer the captured images to a host computer while utilizing only a small line store memory. [Endsley, col. 1, lines 52-56] The camera of Endsley uses the image sensor as an analog frame memory, instead of having a full digital memory in the camera, so that only a small amount of memory, configured as a line store, is required. [Endsley, col. 2, lines 1-4] Endsley teaches that to accommodate bus latency, the camera timing generator adjusts the line blanking interval between line readout times. [Endsley, col. 2, lines 4-6] Endsley further teaches that if there is lots of other traffic on the bus and the time required to read out an image exceeds the frame time, then the next frame is skipped. [Endsley, col. 5, lines 59-67] Endsley does not teach transmitting a stream of data including x number of first data blocks and y number of second data blocks, wherein the first data blocks and the second data blocks are of a same type.

In contrast to the teachings of Endsley, the present invention is directed to a method of and apparatus for transmitting an isochronous video stream of data at a particular frame rate from a source device to a receiving device. The source device preferably determines a proper ratio of

data packets versus video frames in response to the particular frame rate required and a cycle time for isochronous data. This proper ratio of data packets versus video frames rarely computes to an integer result. Accordingly, once the proper ratio of data packets versus video frames is determined, the source device preferably generates two groups of frames. A first group contains an integer value of packets nearest to and above the desired overall average ratio of data packets versus video frames. The source device also generates a second group of frames where each frame from this second group contains an integer value of packets nearest to and below the ratio of packets versus video frames. In order to achieve the desired frame rate, the source device generates a frame ratio containing a specific number of frames from the first group and the second group and forms the isochronous stream of video data. Accordingly, the frames from the first group and the frames from the second group are of a same type. The source device serially generates each of the frames in an order including a combination of the first group of frames and the second group of frames to achieve the overall desired average frame ratio. The source device then transmits the resulting isochronous video stream of data to the receiving device at the desired frame rate. As described above, Endsley does not teach transmitting a stream of data including x number of first data blocks and y number of second data blocks, wherein the first data blocks and the second data blocks are of a same type.

The independent Claim 1 is directed to a method of transmitting information from a source device at a predetermined rate. The method of Claim 1 includes forming x number of first data blocks wherein each of the first data blocks contains n units of data, forming y number of second data blocks wherein each of the second data blocks contains m units of data and combining x number of first data blocks and y number of second data blocks into a data stream. Claim 1 includes the further limitation that the first data blocks and the second data blocks are of a same type. As described above, Endsley does not teach transmitting a stream of data including x number of first data blocks and y number of second data blocks, wherein the first data blocks and the second data blocks are of a same type. For at least these reasons, the independent Claim 1 is allowable over the teachings of Endsley.

Claims 2 and 4 are both dependent upon the independent Claim 1. As discussed above, the independent Claim 1 is allowable over the teachings of Endsley. Accordingly, Claims 2 and 4 are both also allowable as being dependent upon an allowable base claim.

The independent Claim 6 is directed to a method of transmitting information from a source device to a receiving device. The method of Claim 6 includes forming x number of first frames wherein each of the first frames contains n units of data, forming y number of second frames wherein each of the second frames contains m units of data, combining x number of the

first frames and y number of the second frames into a stream of frames and transmitting the stream of frames from the source device to the receiving device. Claim 6 includes the further limitation that the first frames and the second frames are of a same type. As described above, Endsley does not teach transmitting a stream of data including x number of first frames and y number of second frames, wherein the first data blocks and the second data blocks are of a same type. For at least these reasons, the independent Claim 6 is allowable over the teachings of Endsley.

Claims 8 and 10-12 are all dependent upon the independent Claim 6. As discussed above, the independent Claim 6 is allowable over the teachings of Endsley. Accordingly, Claims 8 and 10-12 are each also allowable as being dependent upon an allowable base claim.

The independent Claim 13 is directed to a source device for transmitting information at a predetermined frame rate. The source device of Claim 13 comprises a controller for generating a data stream containing a plurality of first frames each including x packets of data and a plurality of second frames each including y packets of data, wherein the data stream is transmitted at the predetermined frame rate. Claim 13 includes the further limitation that the first frames and the second frames are of a same type. As described above, Endsley does not teach transmitting a data stream including a plurality of first frames each including x packets of data and a plurality of second frames each including y packets of data, wherein the first frames and the second frames are of a same type. For at least these reasons, the independent Claim 13 is allowable over the teachings of Endsley.

The independent Claim 17 is directed to a system for transmitting information at a predetermined frame rate. The system of Claim 17 comprises a source device for generating a data stream containing a plurality of first frames each including x packets of data and a plurality of second frames each including y packets of data, wherein the first frames and the second frames are of a same type, and a remote receiver coupled to the source device and configured to receive the data stream at the predetermined frame rate. As described above, Endsley does not teach generating a data stream containing a first plurality of first frames each including x packets of data and a plurality of second frames each including y packets of data, wherein the first frames and the second frames are of a same type. For at least these reasons, the independent Claim 17 is allowable over the teachings of Endsley.

Claims 23-25 are all dependent on the independent Claim 17. As discussed above, the independent Claim 17 is allowable over the teachings of Endsley. Accordingly, Claims 23-25 are each also allowable as being dependent upon an allowable base claim.

Within the Office Action, Claims 1, 2, 4, 6, 8, 10-13, 17 and 23-25 have been rejected under 35 U.S.C. §102 (e) as being anticipated by U.S. Patent No. 5,982,416 to Ishii et al. (hereinafter "Ishii"). Ishii teaches an image processing method and apparatus. Ishii teaches that the image processor provides a color space conversion characteristic suitable for an image which includes a transfer unit for transferring digital color image data representing a desired image input by an image input unit and having a color space depending on the image input unit. [Ishii, Abstract] The apparatus of Ishii also includes an extraction unit which extracts a color space conversion characteristic used to convert the color space depending on the image input unit into another color space. [Ishii, Abstract] Ishii teaches that the transfer unit transfers the digital color image data having the color space depending on the image input unit and the color space conversion characteristic. [Ishii, Abstract] Ishii teaches that image packet data and the color space characteristic data packet are multiplexed along the time axis. [Ishii, col. 6, lines 63-67] However, these are different types of data. Ishii does not teach transmitting a stream of data including x number of first data blocks and y number of second data blocks, wherein the first data blocks and the second data blocks are of a same type.

In contrast to the teachings of Ishii, the present invention is directed to a method of and apparatus for transmitting an isochronous video stream of data at a particular frame rate from a source device to a receiving device. The source device preferably determines a proper ratio of data packets versus video frames in response to the particular frame rate required and a cycle time for isochronous data. This proper ratio of data packets versus video frames rarely computes to an integer result. Accordingly, once the proper ratio of data packets versus video frames is determined, the source device preferably generates two groups of frames. A first group contains an integer value of packets nearest to and above the desired overall average ratio of data packets versus video frames. The source device also generates a second group of frames where each frame from this second group contains an integer value of packets nearest to and below the ratio of packets versus video frames. In order to achieve the desired frame rate, the source device generates a frame ratio containing a specific number of frames from the first group and the second group and forms the isochronous stream of video data. Accordingly, the frames from the first group and the frames from the second group are of a same type. The source device serially generates each of the frames in an order including a combination of the first group of frames and the second group of frames to achieve the overall desired average frame ratio. The source device then transmits the resulting isochronous video stream of data to the receiving device at the desired frame rate. As described above, Ishii does not teach transmitting a stream of data

including x number of first data blocks and y number of second data blocks, wherein the first data blocks and the second data blocks are of a same type.

The independent Claim 1 is directed to a method of transmitting information from a source device at a predetermined rate. The method of Claim 1 includes forming x number of first data blocks wherein each of the first data blocks contains n units of data, forming y number of second data blocks wherein each of the second data blocks contains m units of data and combining x number of first data blocks and y number of second data blocks into a data stream. Claim 1 includes the further limitation that the first data blocks and the second data blocks are of a same type. As described above, Ishii does not teach transmitting a stream of data including x number of first data blocks and y number of second data blocks, wherein the first data blocks and the second data blocks are of a same type. For at least these reasons, the independent Claim 1 is allowable over the teachings of Ishii.

Claims 2 and 4 are both dependent upon the independent Claim 1. As discussed above, the independent Claim 1 is allowable over the teachings of Ishii. Accordingly, Claims 2 and 4 are both also allowable as being dependent upon an allowable base claim.

The independent Claim 6 is directed to a method of transmitting information from a source device to a receiving device. The method of Claim 6 includes forming x number of first frames wherein each of the first frames contains n units of data, forming y number of second frames wherein each of the second frames contains m units of data, combining x number of the first frames and y number of the second frames into a stream of frames and transmitting the stream of frames from the source device to the receiving device. Claim 6 includes the further limitation that the first frames and the second frames are of a same type. As described above, Ishii does not teach transmitting a stream of data including x number of first frames and y number of second frames, wherein the first data blocks and the second data blocks are of a same type. For at least these reasons, the independent Claim 6 is allowable over the teachings of Ishii.

Claims 8 and 10-12 are all dependent upon the independent Claim 6. As discussed above, the independent Claim 6 is allowable over the teachings of Ishii. Accordingly, Claims 8 and 10-12 are each also allowable as being dependent upon an allowable base claim.

The independent Claim 13 is directed to a source device for transmitting information at a predetermined frame rate. The source device of Claim 13 comprises a controller for generating a data stream containing a plurality of first frames each including x packets of data and a plurality of second frames each including y packets of data, wherein the data stream is transmitted at the predetermined frame rate. Claim 13 includes the further limitation that the first frames and the second frames are of a same type. As described above, Ishii does not teach transmitting a data

stream including a plurality of first frames each including x packets of data and a plurality of second frames each including y packets of data, wherein the first frames and the second frames are of a same type. For at least these reasons, the independent Claim 13 is allowable over the teachings of Ishii.

The independent Claim 17 is directed to a system for transmitting information at a predetermined frame rate. The system of Claim 17 comprises a source device for generating a data stream containing a plurality of first frames each including x packets of data and a plurality of second frames each including y packets of data, wherein the first frames and the second frames are of a same type, and a remote receiver coupled to the source device and configured to receive the data stream at the predetermined frame rate. As described above, Ishii does not teach generating a data stream containing a first plurality of first frames each including x packets of data and a plurality of second frames each including y packets of data, wherein the first frames and the second frames are of a same type. For at least these reasons, the independent Claim 17 is allowable over the teachings of Ishii.

Claims 23-25 are all dependent on the independent Claim 17. As discussed above, the independent Claim 17 is allowable over the teachings of Ishii. Accordingly, Claims 23-25 are each also allowable as being dependent upon an allowable base claim.

### **Rejections Under 35 U.S.C. § 103**

Within the Office Action, Claims 5, 7, 14, 18, 21 and 22 have been rejected under 35 U.S.C. §103 (a) as being unpatentable over Endsley. Claim 5 is dependent on the independent Claim 1. Claim 7 is dependent on the independent Claim 6. Claim 14 is dependent on the independent Claim 13. Claims 18, 21 and 22 are all dependent on the independent Claim 17. As discussed above, the independent Claims 1, 6, 13 and 17 are all allowable over the teachings of Endsley and Ishii. Accordingly, Claims 5, 7, 14, 18, 21 and 22 are all also allowable as being dependent upon an allowable base claim.

Within the Office Action, Claims 5, 7, 14, 18 and 20-22 have been rejected under 35 U.S.C. §103 (a) as being unpatentable over Ishii. Claim 5 is dependent on the independent Claim 1. Claim 7 is dependent on the independent Claim 6. Claim 14 is dependent on the independent Claim 13. Claims 18 and 20-22 are all dependent on the independent Claim 17. As discussed above, the independent Claims 1, 6, 13 and 17 are all allowable over the teachings of Endsley and Ishii. Accordingly, Claims 5, 7, 14, 18 and 20-22 are all also allowable as being dependent upon an allowable base claim.

For the reasons given above, Applicants respectfully submit that all of the claims are in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (650) 833-0160 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,  
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